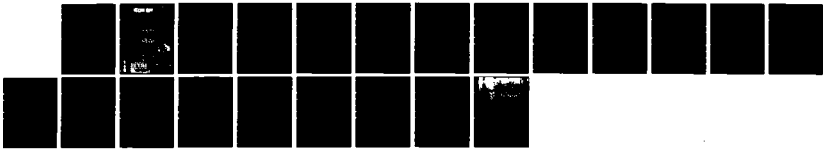
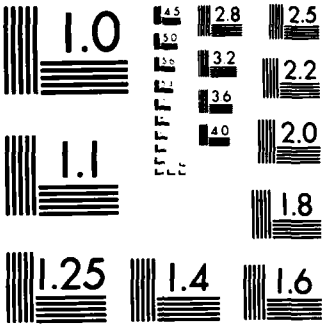
AD-A132 049 19319A MLRS MISSILE NUMBERS BN300 BN301 BN302 BN304 1/1
BN303 BN305 ROUND NUM.. (U) ARMY ELECTRONICS RESEARCH
AND DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER
UNCLASSIFIED 14 JUN 83 ERADCOM/ASL-DR-1301 F/G 4/2 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963 A

DR 1301
JUN 1983
AD

METEOROLOGICAL DATA REPORT

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REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
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3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): 19319A MLRS Missile Number BN-300, BN-301, BN-302, BN-304, BN-303, BN-305 Round Number V-449/DL-13 Thru V-454/DL-18	5. TYPE OF REPORT & PERIOD COVERED
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 19319A MLRS, Missile Number BN-300, BN-301, BN-302, BN-304, BN-303, BN-305, Round Number V-445/DL-13 Thru V-454/DL-18 are presented in tabular form.

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CONTENTS

INTRODUCTION

19319A MLRS, Missile Numbers BN-300, BN-301, BN-302, BN-304, BN-303, and BN-305, Round Numbers V-449/DL-13 Thru V-454/DL-18, were launched from LC-33, White Sands Missile Range (WSMR). New Mexico, at 1600:01, 1600:05, 1600:10, 1600:14, 1600:19 and 1600:23 MDT, 14 Jun 83. The scheduled launch times were 1600 MDT with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (^{o}C), relative humidity, dew point (^{o}C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemoneters at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

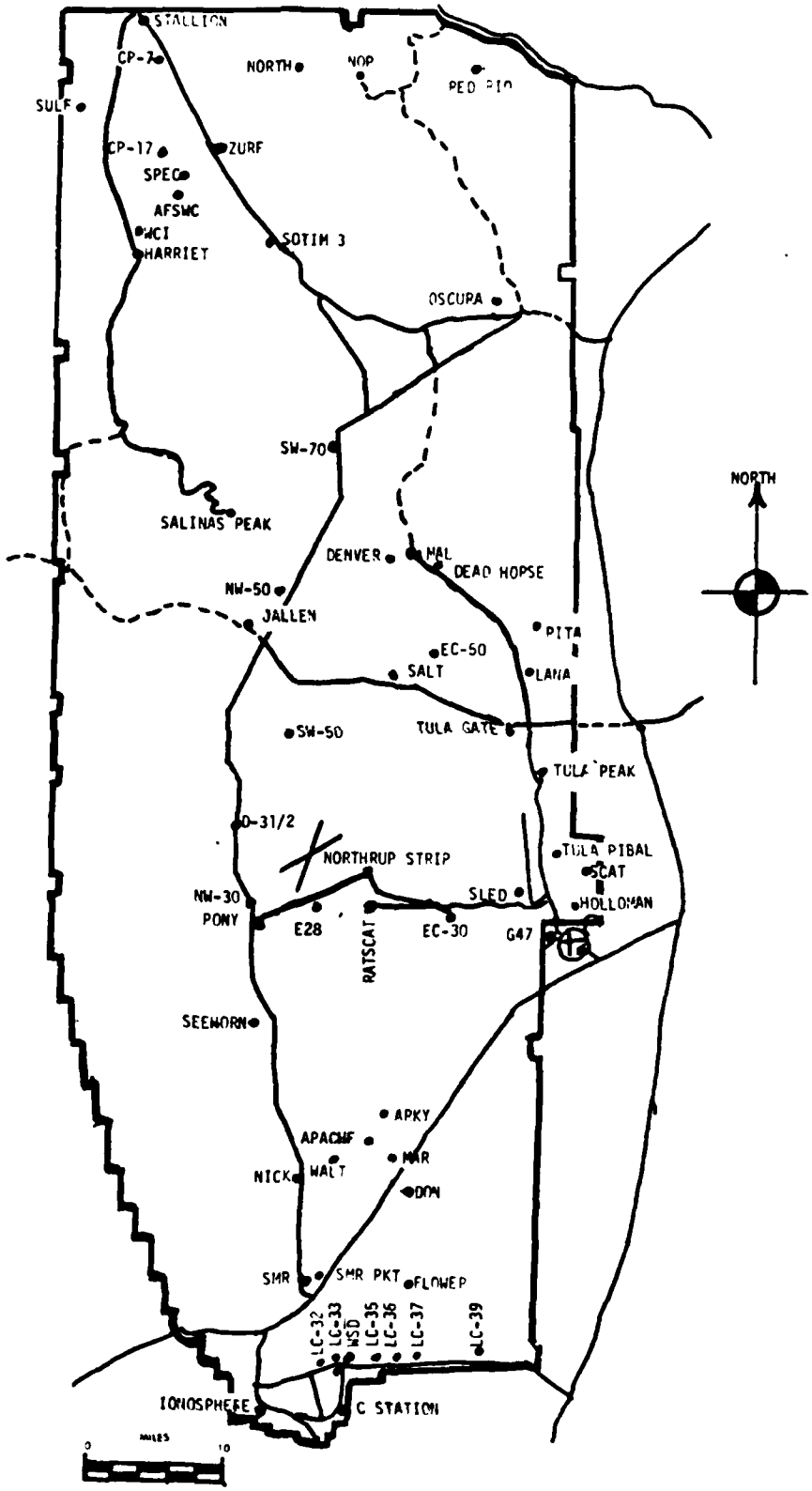
(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE	
LC-33	1550 meters
DON	2000 meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME	
WSD	1445 MDT
WSD	1600 MDT

WSMR METEOROLOGICAL SITES



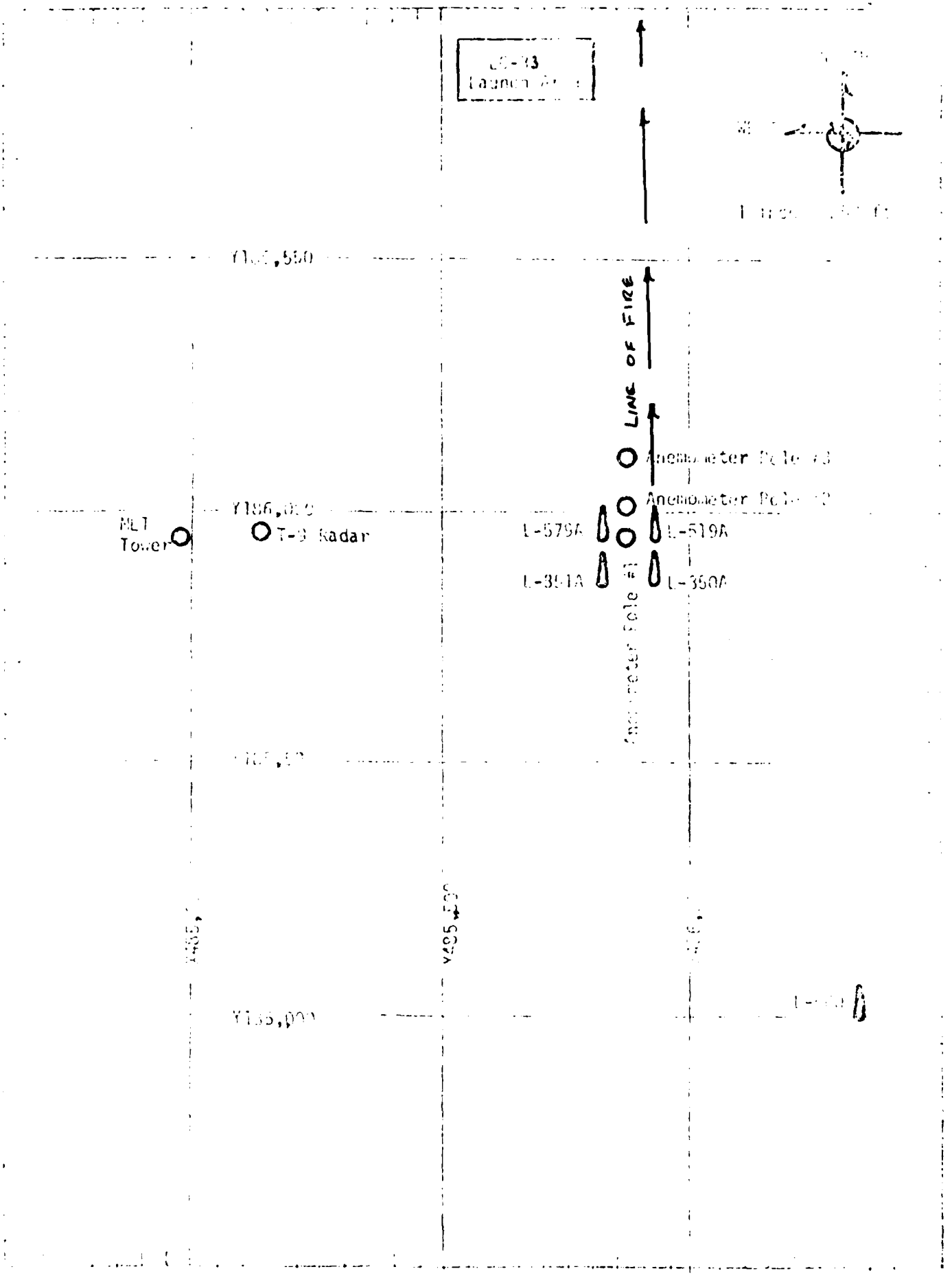

LINE OF FIRE
MET Tower
T-9 Radar
L-579A
L-519A
L-351A
L-360A

TABLE 1

PROJECT SURFACE OBSERVATION

TABLE _____ STATION LC-33

DATE 14 (DAY) JUN (MONTH) 83 (YEAR) Y= 484,982.73 Y= 185,957.73 H= 3995.00

TIME M D I	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1600	879.4		28.8		6.6	25		177	09		45

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
			CLR							H ALQDS

PSYCHROMETRIC COMPUTATION

TIME:	1600		
DRY BULB TEMP.	28.8		
WET BULB TEMP.	15.3		
WET BULB DEPR.	13.5		
DEW POINT	6.6		
RELATIVE HUMID.	25		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,950.00 H4018.74 28.7 ft. AGL			POLE #2 X485,874.29 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,977.29 Y186,116.06 H4033.57 23.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	131	08	T-30	128	07	T-30	137	08
T-20	141	08	T-20	130	07	T-20	141	09
T-10	142	06	T-10	125	08	T-10	146	08
T0.0	131	08	T0.0	117	09	T0.0	144	08
T+10	133	06	T+10	118	08	T+10	127	07

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185.057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	140	09	T-30	137	07
T-20	133	09	T-20	143	07
T-10	150	08	T-10	148	08
T0.0	177	09	T0.0	152	09
T+10	158	10	T+10	149	08

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	152	08	T-30	135	08
T-20	150	08	T-20	139	07
T-10	147	07	T-10	136	07
T0.0	156	10	T0.0	135	08
T+10	150	08	T+10	142	07

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 14 JUN 1983

SITE: LC-33
TIME: 1600 MDT
WSTM COORDINATES:
X= 484,837.34
Y= 184,124.44
H= 3,975.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	177	09
150	156	03
210	136	03
270	123	04
330	112	05
390	107	08
500	125	08
650	133	09
800	128	09
950	130	09
1150	129	09
1350	129	11
1550	125	10
1750	MISG	MISG
2000	MISG	MISG

Data obtained from a Double Theodolite Tracked pilot-balloon observation.

SITE: DON
TIME 1600 MDT
WSTM COORDINATES:
X= 511,988.37
Y= 247,396.36
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	166	07
210	169	08
270	177	07
330	186	06
390	197	05
500	223	04
650	216	04
800	191	04
950	190	06
1150	149	07
1350	124	08
1550	129	07
1750	150	04
2000	261	04

Data obtained from a Single Theodolite Tracked pilot-balloon observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES
14 June 1983

WSD 1445 MDT		WSD 1600 MDT	
METCM1324064		METCM1324064	
142080122880		142200122879	
00213003	30460880	00373002	30350879
01243011	30050870	01299006	30160869
02231007	29710845	02280006	29830845
03211008	29310807	03240008	29420807
04267007	28830761	04242010	28910761
05346007	28400717	05254009	28410717
06427010	28110675	06292002	28030675
07459026	27810635	07464021	27720635
08465026	27460597	08497024	27490597
09476025	27250561	09477023	27220561
10472020	26940527	10463019	26860527
11465019	26570495	11461020	26500494
12456021	25950449	12462022	25900448

STATION ALTITUDE 3989.0 FEET MSL
19 JUNE 63 1445 MDT
ASCENSION NO. 256

SIGNIFICANT LEVEL DATA
10500202G
WHITE SANDS
TABLE 6

GEODETIC COORDINATES
32.40093 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT
879.8	3989.0	30.4	4.2	19.0
872.5	4231.4	26.3	-.7	17.0
850.0	4982.5	23.7	-.6	20.0
802.1	6628.9	18.6	-1.8	25.0
775.7	7674.1	15.5	-3.4	27.0
714.9	9917.7	9.9	-4.4	36.0
700.0	10391.7	9.0	-7.2	31.0
686.5	10920.9	8.4	-8.6	29.0
641.0	12770.1	4.4	-5.4	49.0
632.0	13148.7	4.4	-10.1	34.0
614.0	13919.7	2.8	-12.2	32.0
587.6	15083.1	.0	-13.6	35.0
573.2	15873.8	-.5	-23.2	16.0
553.2	16660.1	-1.1	-21.7	19.0
500.0	19290.0	-7.1	-24.2	24.0
400.0	24865.4	-20.8	-35.2	26.0

STATION ALTITUDE 3989.0 FEET MSL
19 JUNE 83 1445 MDT
ASCENSION NO. 296

UPPER AIR DATA
165002029G
WHITE SANDS

TABLE 7

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	874.8	20.4	4.2	19.0	1006.1	680.6	120.0	2.9	1.000258
4000.0	874.5	20.2	4.0	18.9	1006.4	679.7	120.1	2.9	1.000258
4500.0	864.4	25.4	-.6	18.1	1006.1	674.0	122.3	4.6	1.000249
5000.0	849.5	23.6	-.6	20.1	994.5	672.0	123.3	6.2	1.000247
5500.0	834.6	22.1	-.9	21.6	982.2	670.3	123.9	7.8	1.000244
6000.0	820.1	20.5	-1.2	23.1	970.2	668.5	120.9	8.0	1.000241
6500.0	805.8	19.0	-1.7	24.6	958.4	666.7	121.2	8.1	1.000238
7000.0	791.5	17.5	-2.3	25.7	946.4	665.0	126.3	8.0	1.000234
7500.0	777.5	16.0	-3.1	26.7	934.5	663.3	135.4	7.5	1.000230
8000.0	763.6	14.6	-3.5	28.4	922.2	661.7	152.1	6.7	1.000227
8500.0	749.9	13.3	-3.6	30.5	909.7	660.2	168.4	6.5	1.000224
9000.0	736.4	12.0	-3.9	32.6	897.4	658.7	181.2	6.6	1.000221
9500.0	723.2	10.7	-4.2	34.7	885.4	657.2	193.3	6.7	1.000218
10000.0	710.1	9.6	-5.3	38.4	873.0	655.8	210.1	5.8	1.000214
10500.0	697.2	8.9	-7.5	30.6	859.6	654.9	231.9	5.7	1.000208
11000.0	684.5	8.2	-8.4	29.9	845.9	654.1	254.7	8.4	1.000204
11500.0	671.9	7.1	-7.2	35.3	833.4	652.9	264.8	11.7	1.000203
12000.0	659.6	6.1	-6.3	40.7	821.1	651.7	261.7	16.2	1.000202
12500.0	647.5	5.0	-5.6	46.1	809.0	650.5	260.0	20.8	1.000200
13000.0	635.5	4.4	-8.0	39.9	796.1	649.7	258.3	23.6	1.000194
13500.0	623.7	3.7	-11.0	33.1	783.7	648.7	256.9	26.4	1.000188
14000.0	612.1	2.6	-12.3	32.2	772.2	647.4	258.5	26.8	1.000184
14500.0	600.7	1.4	-12.9	33.5	761.1	646.0	260.4	26.9	1.000181
15000.0	589.4	.2	-13.5	34.8	750.2	644.5	263.2	26.4	1.000178
15500.0	578.4	-.3	-17.9	25.0	737.6	643.9	266.2	25.8	1.000172
16000.0	567.5	-.6	-22.9	16.5	724.8	643.4	267.4	25.0	1.000166
16500.0	556.8	-1.0	-22.0	18.4	712.1	642.9	268.5	24.0	1.000164
17000.0	546.2	-1.9	-22.0	19.6	700.8	641.9	268.1	22.3	1.000161
17500.0	535.7	-3.0	-22.4	20.6	690.4	640.5	267.1	20.9	1.000159
18000.0	525.5	-4.1	-22.9	21.5	680.1	639.2	264.9	20.0	1.000157
18500.0	515.5	-5.3	-23.4	22.5	669.9	637.8	262.9	19.4	1.000154
19000.0	505.6	-6.4	-23.9	23.4	660.0	636.4	261.7	19.6	1.000152
19500.0	495.8	-7.6	-24.5	24.1	650.1	635.0	260.5	19.8	1.000149
20000.0	486.2	-8.8	-25.0	24.3	640.2	633.5	258.6	19.6	1.000147
20500.0	476.8	-10.1	-26.5	24.4	630.5	632.1	256.8	19.5	1.000144
21000.0	466.9	-11.3	-27.5	24.6	620.9	630.6	255.2	19.4	1.000142
21500.0	457.7	-12.5	-28.5	24.8	611.5	629.1	254.3	19.4	1.000139
22000.0	448.6	-13.8	-29.5	25.0	602.2	627.6	256.7	19.5	1.000137
22500.0	439.7	-15.0	-30.5	25.2	593.1	626.1	258.5	19.9	1.000135
23000.0	431.0	-16.2	-31.5	25.3	584.2	624.6	258.6	21.3	1.000133

STATION ALTITUDE 3989.00 FEET SL
14 JUNE 83 1445 MDT
ASCENSION NO. 246

UPPER AIR DATA
165002029G
WHITE SANDS

GEODETIC COORDINATES
32.43043 LAT DEG
106.37033 LON DEG

TABLE 7 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	422.5	-17.4	-32.5	25.5	575.4	623.1			1.000130
24000.0	414.1	-18.7	-33.5	25.7	566.7	621.6			1.000128
24500.0	405.9	-19.9	-34.5	25.9	558.2	620.1			1.000126

STATION ALTITUDE 3989.20 FEET MSL
19 JUNE 83 1445 MDT
ASCENSION NO. 296

MANDATORY LEVELS
16500202[illegible]
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

PRESSURE	GEOPOTENTIAL	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL.HUM.	WIND DATA DIRECTION	WIND DATA SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
[illegible]	4979.	23.7	-.6	20.	123.3	6.1
800.0	6697.	18.4	-1.9	25.	123.2	8.1
750.0	8403.	13.4	-3.6	30.	168.4	6.5
700.0	10381.	9.0	-7.2	31.	226.0	5.5
650.0	12383.	5.2	-5.7	45.	260.3	19.8
600.0	14514.	1.3	-12.9	34.	260.5	26.9
550.0	16798.	-1.4	-21.9	19.	260.3	22.9
500.0	19263.	-7.1	-24.2	24.	261.1	19.7
450.0	21925.	-13.6	-29.3	25.	256.5	19.5
400.0	24823.	-20.8	-35.2	26.		

STATION ALTITUDE 3989.0 FEET MSL
14 JUNE 83 1600 MDT
ASCENSION NO. 27

SIGNIFICANT LEVEL DATA
16500.0297
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT
875.9	3989.0	29.4	5.5	22.0
863.6	4499.4	26.4	3.6	23.0
850.0	4056.9	24.5	3.8	26.0
700.0	10382.6	8.2	-3.0	45.0
687.2	10882.5	7.6	-2.7	48.0
650.4	12364.3	4.0	-4.0	56.0
641.2	12744.4	2.7	-5.4	55.0
631.8	13138.3	4.0	-11.6	31.0
614.4	13883.0	2.8	-11.5	34.0
605.6	14265.7	1.2	-11.8	37.0
602.0	14423.6	1.7	-13.6	31.0
570.4	15435.3	.6	-20.3	19.0
500.0	19265.7	-7.6	-22.5	29.0
425.9	23296.8	-17.3	-31.0	29.0
400.0	24832.7	-21.1	-34.4	29.0

STATION ALTITUDE 3989.0 FEET MSL

19 JUNE 83 **1600 MDT**

ASCENSION NO. 27

UPPER AIR DATA
18500020297

WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	876.9	29.4	5.5	22.0	1006.1	678.6	210.0	1.9	1.000262
4000.0	876.6	29.3	5.4	22.0	1007.9	678.4	208.9	1.9	1.000262
4500.0	863.6	26.4	3.6	23.0	1000.8	675.4	169.8	2.7	1.000256
5000.0	848.7	24.4	3.7	26.2	990.2	671.2	152.7	4.2	1.000255
5500.0	833.6	22.9	3.4	27.9	977.6	671.5	144.6	5.8	1.000252
6000.0	818.9	21.4	2.9	29.7	965.2	669.7	139.3	7.1	1.000248
6500.0	804.3	19.9	2.4	31.4	953.0	668.0	134.7	8.1	1.000245
7000.0	790.1	18.4	1.9	33.2	941.0	666.3	133.4	8.7	1.000241
7500.0	776.1	16.9	1.3	34.9	929.2	664.5	134.1	9.2	1.000237
8000.0	762.3	15.4	.6	36.7	917.5	662.8	135.6	9.6	1.000234
8500.0	748.8	13.9	-.1	38.4	906.1	661.0	137.9	10.0	1.000230
9000.0	735.5	12.4	-.8	40.2	894.8	659.2	139.3	9.6	1.000226
9500.0	722.4	10.8	-1.6	41.9	883.7	657.5	140.4	8.9	1.000222
10000.0	709.6	9.3	-2.4	43.7	872.7	655.7	140.9	7.6	1.000219
10500.0	697.0	8.1	-2.9	45.7	861.1	654.2	138.4	5.8	1.000215
11000.0	684.2	7.3	-2.8	48.6	847.5	653.3	130.9	3.6	1.000213
11500.0	671.6	6.1	-3.2	51.3	835.6	651.9	236.7	3.2	1.000210
12000.0	659.3	4.9	-3.6	54.0	823.8	650.5	257.7	9.3	1.000206
12500.0	647.1	3.5	-4.5	55.6	812.7	648.9	259.0	17.1	1.000203
13000.0	635.1	3.5	-8.9	39.4	798.1	648.6	260.0	21.5	1.000193
13500.0	623.3	3.4	-11.5	32.5	783.9	648.4	261.1	24.4	1.000187
14000.0	611.7	2.3	-11.6	34.9	772.4	647.1	264.1	24.2	1.000185
14500.0	600.3	1.6	-14.0	30.1	760.1	646.2	267.0	24.1	1.000180
15000.0	589.0	1.1	-17.1	24.2	747.5	645.5	269.1	23.8	1.000175
15500.0	578.0	.5	-20.3	19.2	735.3	644.7	270.9	23.5	1.000170
16000.0	566.9	-.6	-20.5	20.5	724.1	643.4	269.8	23.0	1.000167
16500.0	556.1	-1.7	-20.7	21.8	713.1	642.1	267.0	22.5	1.000165
17000.0	545.5	-2.7	-20.9	23.1	702.3	640.9	265.2	21.1	1.000162
17500.0	535.1	-3.8	-21.2	24.4	691.6	639.6	263.1	19.7	1.000160
18000.0	525.0	-4.9	-21.5	25.7	681.2	638.3	261.0	19.0	1.000157
18500.0	514.9	-6.0	-21.9	27.0	670.9	637.0	258.7	18.6	1.000155
19000.0	505.1	-7.0	-22.3	28.3	660.8	635.8	253.9	19.0	1.000153
19500.0	495.4	-8.2	-23.0	29.0	650.8	634.4	249.5	19.6	1.000150
20000.0	485.6	-9.4	-23.8	29.0	640.9	632.9	249.0	19.5	1.000147
20500.0	476.2	-10.6	-25.1	29.0	631.2	631.5	248.5	19.6	1.000145
21000.0	466.7	-11.8	-26.2	29.0	621.6	630.0	248.1	20.4	1.000142
21500.0	457.5	-13.0	-27.2	29.0	612.2	628.6	248.9	21.3	1.000140
22000.0	448.5	-14.2	-28.3	29.0	603.0	627.1	251.4	22.4	1.000138
22500.0	439.6	-15.4	-29.3	29.0	593.9	625.6	252.6	23.1	1.000135
23000.0	431.0	-16.6	-30.4	29.0	584.9	624.1	252.7	23.5	1.000133

STATION ALTITUDE 3989.00 FT MSL
14 JUNE 63 1600 MDT
ASCENSION NO. 297

UPPER AIR DATA
16500206297
WHITE SANDS

GEODETIC COORDINATES
32.46093 LAT DEG
106.37033 LON DEG

TABLE 10 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	422.4	-17.8	-31.5	20.0	576.0	622.7			1.000131
24000.0	413.8	-19.0	-32.5	20.0	567.1	621.1			1.000129
24500.0	405.5	-20.3	-33.6	20.0	558.4	619.6			1.000126

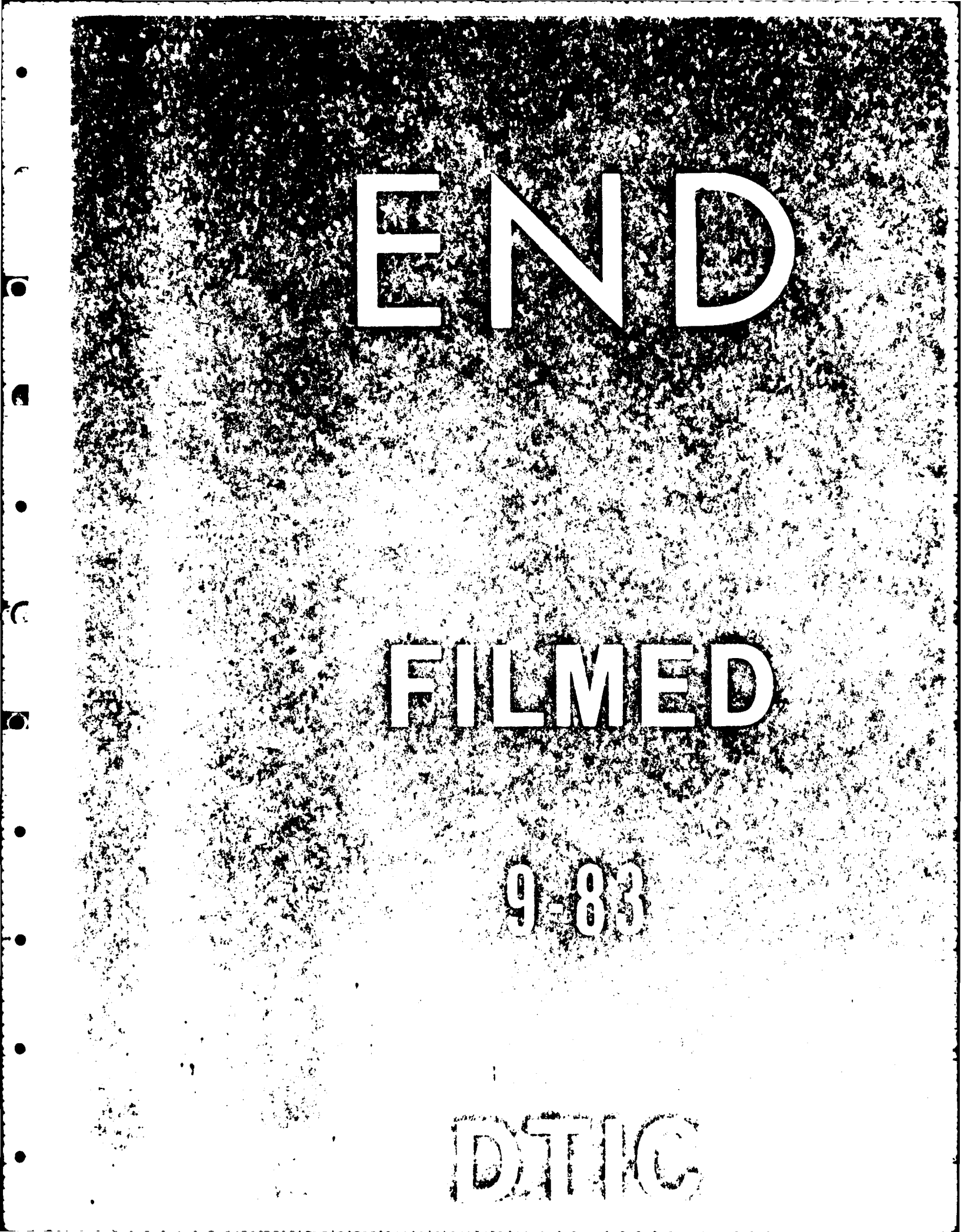
STATION ALTITUDE 3989.00 FEET MSL
14 JUNE 83 1600 MDT
ASCENSION NO. 297

MANDATORY LEVELS
16500/0297
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOPOTENTIAL HEIGHT FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4953.	24.5	3.8	26.	153.7	4.0
800.0	6679.	19.4	2.3	32.	133.3	6.4
750.0	8482.	14.0	.0	38.	137.8	10.0
700.0	10372.	8.2	-3.0	45.	139.7	6.3
650.0	12367.	3.9	-4.0	56.	258.8	15.2
600.0	14494.	1.6	-14.1	30.	267.0	24.1
550.0	16760.	-2.3	-20.8	23.	266.0	21.7
500.0	19238.	-7.6	-22.5	29.	259.2	19.3
450.0	21896.	-14.0	-28.1	29.	261.0	22.2
400.0	24791.	-21.1	-34.4	29.		


END
FILMED
9-83
DTIC